

## CLAIMS

What is claimed is:

1. A ferroelectric gate device which comprises:

a ferroelectric capacitor;

5 a switching element; and

a field-effect transistor having a source, a drain  
and a gate;

said ferroelectric capacitor having an input  
terminal at one end,

10 the other end of said ferroelectric capacitor being  
connected to one end of said switching element,

the other end of said switching element being  
connected to the gate of said field-effect transistor, and  
said switching element being a zener diode.

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2. A ferroelectric gate device according to claim 1,  
wherein when a voltage is applied to said input terminal,  
said switching element serves as a resistor if a voltage  
higher than the coercive voltage of a ferroelectric

20 substance which said ferroelectric capacitor comprises is  
applied to said ferroelectric capacitor, and

when a voltage is applied to said input terminal,  
said switching element serves as a capacitor if a voltage  
lower than the coercive voltage of said ferroelectric

25 substance is applied to said ferroelectric capacitor.

3. A ferroelectric gate device according to claim 1,  
wherein the anode of said zener diode is connected to the  
gate of said field-effect transistor, and

5 the cathode of said zener diode is connected to the  
other end of said ferroelectric substance.

4. A ferroelectric gate device according to claim 1,  
wherein said field-effect transistor is a MOS transistor.

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5. A ferroelectric gate device according to claim 1,  
wherein said ferroelectric capacitor comprises one  
ferroelectric material selected from the group consisting  
of strontium bismuth tantalate, bismuth titanate, lead  
15 titanate and polyvinylidene fluoride-ethylene trifluoride  
copolymer.

6. A ferroelectric gate device according to claim 1,  
wherein said ferroelectric capacitor comprises strontium  
20 bismuth tantalate as a ferroelectric material, and

the area of said ferroelectric material being about  
1/10 the area of said gate.